

**Case 2901*****Stictostroma* Parks, 1936 (Porifera, Stromatoporoidea): proposed conservation, and designation of *S. gorriense* Stearn, 1995 as the type species**

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**Abstract.** The purpose of this application is to conserve the name of the Devonian stromatoporoid genus *Stictostroma* Parks, 1936 as it is currently used. The name is unavailable from 1936 because the first valid type species designation was by Galloway & St. Jean (1957) of *Stromatopora mammillata* Nicholson, 1873 (a junior homonym that they renamed *Stictostroma mamilliferum*). However, the specimens they used to characterize this species (*Stromatopora mammillata* = *Stictostroma mamilliferum*) were not compared with the diagnostic internal structure of Nicholson's type specimen. As a result both Parks and Galloway & St. Jean misidentified as *Stictostroma mamilliferum* a new taxonomic species named *Stictostroma gorriense* by Stearn (1995), whose holotype is one of the specimens used by Parks in establishing the genus *Stictostroma*. It is proposed that the name *Stictostroma* be taken as available from Parks (1936) and that *S. gorriense* be designated the type species.

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1. Parks (1936, p. 77) proposed the name *Stictostroma* for 'certain species [of stromatoporoid] that seem to be intermediate between *Clathrodictyon* and *Stromatoporella*'. He wrote '... it is impossible to select a genotype. Cogenotypes might be named — *S. mammillata* [*Stromatopora mammillata* Nicholson, 1873 (p. 94)] characterized by laminae porous in structure but without hollow points [now called ring pillars], and *S. eriense* [sp. nov., p. 81] with non-porous laminae inflated to form hollow points [ring pillars]'. He recognized the unconventional nature of his action, writing 'this procedure may not be in accord with the best system of nomenclature'.

2. Lecompte (1951, p. 137) objected that the genus was invalid under the Code because it was proposed with two type species. Article 13b of the present Code requires that, to be available, a genus-group name published after 1930 must 'be accompanied by the fixation of the type species by original designation or by indication'. Parks had not validly designated a type species.

3. Galloway & St. Jean (1957, p. 124) designated *Stromatopora mammillata* Nicholson as the type species. They noted that this name was a junior primary homonym of *Stromatopora mammillata* Schmidt, 1858 and resolved the problem of homonymy by renaming Nicholson's species *Stictostroma mamilliferum* (p. 125). This specific name has subsequently been misspelled '*mamilliferum*' by St. Jean (1962, pp. 187, 195) and Fagerstrom (1977, p. 416). In choosing one of Parks's proposed 'cogenotypes', Galloway & St. Jean assigned the other, *S. eriense*, to *Stromatoporella*

Nicholson, 1886 and redefined the genus *Stictostroma* to exclude species with ring pillars. The name is now used by all palaeontologists in the sense of Galloway & St. Jean's revision (for example, Galloway & Ehlers, 1960; St. Jean, 1962; Stearn & Mehrotra, 1970; Kazmierczak, 1971; Khromych, 1974; Stearn, 1975; Fagerstrom, 1982). A review of the literature (Stearn, 1995) shows that about 32 described species can be assigned to the genus as redefined.

4. Parks's (1936) original and Galloway & St. Jean's (1957) revised concepts of *Stictostroma* were not based on a knowledge of the internal structure of the type specimens of *Stromatopora mammillata* (= *Stictostroma mamilliferum*) from Port Colborne, Ontario, as the type specimens in the Nicholson Collection had never been cut into thin sections (as noted previously by Whiteaves, 1898, p. 368). They were based on material collected by Parks from Ashton's quarry near the village of Gorrie, Ontario, about 100 km northwest of Port Colborne. Parks identified these as *S. mammillata* Nicholson on the basis of resemblance of the growth surfaces alone. Parks's genus, in both original concept and revision, had come to be based on a type species whose diagnostic internal structure was unknown.

5. Fagerstrom (1977, p. 417) examined the types of *Stromatopora mammillata* (= *Stictostroma mamilliferum*) and confirmed that they had not been cut, polished or sectioned. The Nicholson Collection at the Natural History Museum, London, includes two specimens in lot P5766 identified in Nicholson's hand as the type specimens of *Stromatopora mammillata*. They appear to be fragments of the same skeleton. Thin sections cut across the smaller specimen (P5766B), studied by me and designated as the lectotype (Stearn, 1995, p. 23), show a very thin crust with steep-sided mamelons and only vague traces of internal structure visible through a pervasive silicification. The Nicholson Collection includes also two paralectotype lots: P5764 (a single specimen labelled also as 'type specimens') and P5765 (five small fragments of a silicified crust). These are described and illustrated by Stearn (1995). The original specimens of the type species selected by Galloway & St. Jean do not show the features considered by Parks and Galloway & St. Jean as diagnostic of the genus, and show very few internal features at all.

6. The specimen (Royal Ontario Museum 9360, Parks's number 1551) Parks illustrated (1936, pl. 14, figs. 3-6) as '*Stictostroma mammillata* (Nicholson)' shows the internal features of *Stictostroma* clearly. Parks's specimens differ from Nicholson's types in sufficient features to indicate that they are not conspecific, and possibly not congeneric. They therefore require a new name and have been called *Stictostroma gorriense* by Stearn (1995, p. 26). The holotype is Parks's specimen 1551 (ROM 9360) in the Royal Ontario Museum from Gorrie, Ontario, illustrated by Parks (1936, pl. 14, figs. 3-6) and by Stearn (1995, figs. 1.6, 1.7, 2.5, 2.6).

7. Because the name *Stictostroma* is invariably attributed to Parks (1936), although it was not made formally available until the designation by Galloway & St. Jean (1957) of a type species, to attribute it to Galloway & St. Jean would be contrary to usage. The genus was based on Parks's specimens now named *Stictostroma gorriense* Stearn, 1995.

8. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary powers:

(a) to rule that the generic name *Stictostroma* Parks, 1936 is available although

- no type species of the nominal genus was validly fixed with the original publication of the name;
- (b) to set aside all previous fixations of the type species for the nominal genus *Stictostroma* Parks, 1936 and to designate *Stictostroma gorriense* Stearn, 1995 as the type species;
- (2) to place on the Official List of Generic Names in Zoology the name *Stictostroma* Parks, 1936 (gender: neuter), type species by designation in (1)(b) above *Stictostroma gorriense* Stearn, 1995;
- (3) to place on the Official List of Specific Names in Zoology the name *gorriense* Stearn, 1995, as published in the binomen *Stictostroma gorriense* (specific name of the type species of *Stictostroma* Parks, 1936).

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